

Claims 15-20 have been rejected under 35 U.S.C. 102(e) as anticipated by Lin 6,483,147, the Examiner alleging that Lin discloses all elements of claim 15.

This rejection is respectfully traversed with respect to claim 15 as amended and dependent claims 21-23. Claim 15 as amended is drawn particularly to the embodiment of Figs. 1D, 2C, and 3C in which insulating silicon oxide layer 12 electrically insulates the metal layer 20 from the semiconductor component 16.

Lin does not do this. Note Fig. 5 in which contact hole 36 extends through substrate 12 and the silicon oxide insulating layer 34 and contacts device layer 32. Lin is apparently concerned with providing the metal heat sink in very close proximity to the device layer without concern for electrical isolation. Note that this feature is specifically claimed by Lin, in particular reciting, "a conductive plug through the silicon substrate layer and the insulation layer contacting the silicon device layer, wherein the conductive plug extends into the silicon device layer".

Not only does the claimed silicon oxide layer provide electrical isolation between the heat sink plug and the semiconductor component, the silicon oxide layer also functions as an etchant stop in forming the hole for accommodating a metal heat sink, thereby preventing the conductive plug from extending into the silicon device layer, which is a key feature of the Lin patent. Accordingly, it is respectfully submitted that the semiconductor device as defined by claim 15 (amended) and dependent claims 21-23 is neither shown nor suggested by Lin.

Since the non-elected claims have been canceled, since the objection to the declaration has been addressed, and since claims 15 and 21-23 as amended are patentable under 35 U.S.C. 102(e) and 103 over Lin, all as above set forth, it is requested that claims 15 and 21-23 be allowed and the application passed to issue.

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Application No.: 10/053,424  
Page 4

PATENT

Should the Examiner have any questions concerning the present amendment and response, a telephone call to the undersigned attorney is requested.

Respectfully submitted,

  
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**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

15. (Amended) A semiconductor device comprising:

- a) a semiconductor body including a silicon supporting substrate, a silicon oxide layer supported by the substrate, and a silicon layer overlying the silicon oxide layer,
- b) a semiconductor component formed in the silicon layer overlying a portion of the substrate in which silicon has been removed by etching, and
- c) a metal layer in the portion of the substrate in which silicon has been removed by etching, the metal layer abutting the silicon oxide layer and providing heat removal from the component, the silicon oxide layer electrically insulating the metal layer from the semiconductor component.

21. (Amended) The semiconductor device as defined by claim [20] 15, wherein the metal layer comprises a refractory metal.

22. (Amended) The semiconductor device as defined by claim 21, wherein the metal layer comprises gold, aluminum, or copper over the refractory metal.